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Primary school teachers of instructional technologies self-efficacy levels

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Abstract

In this research, the level of primary school teachers self efficacy believes towards instructional technologies is investigated. The research is performed by applying questionnaires to 43 primary school teachers in Erzincan. The questionnaire consists of 28 questions. For the analysis of the research results SPSS program is used, mean and standard deviation for the answers of all lecturers in the research are calculated. Result of this study is concluded that primary school teachers have high self efficacy believe towards instructional technologies. And teachers believe that they have an understanding of how technology can be integrated into regular classroom instructional practices.

Keywords: Instructional technology, primary school teachers, self efficacy,

1. Introduction

Today, there have been huge developments in technology. Information and Communication Technologies (ICTs) have been successfully adopted in a variety of ways in teaching and learning (Kerr, 2005). And they too are called educational technology or instructional technologies. Educational technology is concerned with technology in education. It is involved in the use of technology as a "tool" to enhance the teaching and learning process across all subject areas (Petrina, 2003). Many teacher educators and teacher education programs have been experimenting with the use of technology over the years. Despite their efforts, there are still challenges and concerns regarding teacher's ability to integrate technology into teaching and learning activities and their comfort in doing so. Many suggestions and recommendation have been made to improve teacher education programs. Effective teaching strategies, sound pedagogy, appropriate curriculum, faculty development and updating equipment are typically the most important considerations in teacher education. Although teacher education institutions have tried their best to provide quality education to their students for many years, many concerns are voiced. Those concerns now include debate and controversy about the best means of integrating technology into teacher preparation and preparing teachers to do the same in their classrooms (Oh and French, 2007).

Educational technology is not, and never will be, transformative on its own - it requires teachers who can integrate technology into curriculum and use it to improve student learning (Kumar et al., 2008). Several observers have emphasized the need to provide in-service teachers with better preparation on how to integrate technology into

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their teaching practices (Russell et al., 2003). Instruction technologies assisted learning environments can be used for fostering student centered teaching and enhancing individualization with tools for learning and evidencing students learning achievements and progress (Starcic 2010). When technology makes abstract ideas tangible, teachers can more easily: (1) Build upon students' prior knowledge and skills. (2) Emphasize the connections among scientific concepts. (3) Connect abstractions to real-world settings. (4) Address common misunderstandings. (5) Introduce more advanced ideas (Roschelle et al. 2007). And the effective use of instructional technology in class help students learn, understand the lesson and increase their success, it also contributes to student motivation and cooperation as well as improving their problem solving skills and creativity (Grabe and Grabe, 2007). Even if students could learn independently how to use technology to enhance their learning and skills development, with little or no involvement from their teachers, they are highly unlikely to have those opportunities if teachers do not let them have access to technology. Teachers remain the gatekeepers for students' access to educational opportunities afforded by technology: they cannot and should not be ignored (Carlson and Gadio, 2002).

Teachers' pedagogical beliefs as an important variable influences teachers' use of technology in the classroom. Teachers' attitudes and beliefs toward technology are of great importance in their decisions to adopt and frequently use technology in the classroom (Becker 1994). Bandura (1997) describes perceived self-efficacy as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Albion, 2001). The efficacy of teachers suggests that behaviors such as persistence at a task, risk taking, and the use of innovations are related to degrees efficacy (Cakiroglu, Cakiroglu and Boone, 2005). When considering teacher use of technology, whether from the perspective of teacher preparation or research, it is important to recognize that there are many different types of technology use related to instruction. Quite simply, changing teachers' use of technology requires changing their beliefs about technology (Russell et al., 2003). As this applies to the integration of technology into education, self-efficacy beliefs toward technology integration have been theorized to be a determining factor in how well a teacher is able to effectively use technology to improve teaching and learning (Albion, 2001). If teachers' positive attitude towards the use of instructional technology will mostly help students to benefit more from the information they will be provided. Moreover, this positive attitude will help teachers use more instructional technology tools and make learning more interesting and attractive for their students. In addition to this, as they will be proficient in using different kinds of technological devices, their lessons will be more fun and students will be able to benefit more from the lessons (Eyyam, Menevis and Dogruer, 2010). The teachers, who have negative attitudes towards technology, are not expected to benefit well in this field and to insert efficiently the technology to education-teaching environment (Guven, 2008).

2. Methodology

The study consists of primary school teachers in Erzincan. The sample unit was formed by 43 primary school teachers in total. Data were collected through likert-type scale in the study. The scale (developed by Ordu (2007)) to investigate level of self efficacy believes towards instructional technologies by teachers was used in this study to investigate level of self efficacy believes towards instructional technologies by primary school teachers. The scale included 28 questions. The students' answers are graded as never-1, seldom-2, sometimes-3, too often- 4 and always-5. The data obtained at the end of the study were analyzed by the way of a packet program.

3. Findings

Table 1. Total scale and item means and standard deviations of respondents' scores on the self efficacy believes scale instructional technologies

		Mean	Std. Deviation
1	I know the tools and methods relevant to subject of students' lessons for determining pre- competence.	4.16	.687
2	I know the tools and methods for determining the students' learning styles	4.20	.803
3	I can determine students' pre- competence relevant to lessons subjects.	4.41	.544
4	I can determine students' learning styles.	3.80	.843
5	I can set learning goals which can be reached by all students for my lessons	3.76	.921
6	When I am determining learning objectives I can take into account the properties of the students who have special status.	3.86	.940

7	I can write observable and measurable targets	4.00	.755
8	I can differentiate learning objectives according to their level and kind in respect of any approach.	3.97	.706
9	I can write different kinds and levels of learning objectives.	3.97	.771
10	I can select appropriate teaching methods for specific learning goals.	4.11	.730
11	I can select the appropriate teaching methods for specific student characteristics.	3.93	.827
12	I can choose the appropriate instructional tools and materials for specific teaching methods.	4.14	.813
13	I can determine suitability of the content of teaching material for a lesson.	4.23	.820
14	I can select appropriate ones among the existing teaching materials for my lessons.	4.30	.772
15	I can determine the needs of a revision of teaching materials.	3.86	.833
16	I can do minor revision of a teaching materials.	3.79	.803
17	I have the basic skills which need to develop specific teaching materials.	4.00	.816
18	I can also prepare the tools and materials which are used in my lesson.	4.34	.686
19	I can prepare the class for using tools and materials I chosen.	4.39	.791
20	I can gather students' attention with tools and materials I will use.	4.44	.589
21	I can use tools and materials I chosen as my plan.	4.27	.881
22	During the course, I can consolidate to students' react which is appropriate the plan	4.44	.665
23	I can use appropriate learning activities suitable for learning goals I determined.	4.34	.719
24	I can encourage the students' attendance at the lesson.	4.46	.630
25	I can prepare appropriate activities to students for their regurgitating	4.27	.825
26	I can evaluate students' achievement at the end of lesson.	4.30	.913
27	When I am implementing teaching practice, I can determine deficiencies of teaching practice according to a prepared lesson plan	4.27	.934
28	I can determine my deficiency in terms of appropriately using instructional technologies as a teacher.	4.27	.796

The problem under investigation is to explore primary school teachers of instructional technologies self-efficacy levels. The respondents' scores on the radiation scale were analyzed by utilizing descriptive statistics. They also indicated an average mean score of "4.20" according to the respondents' mean scores on the scale for all the items as it can be seen in Table 1. According to the descriptive result of this study, the primary school teachers indicated high self efficacy believes toward instructional technologies. However, the total scale score and item scores were clustered just above the high-point.

The arithmetic mean and standard deviation values of the primary school teachers' self efficacy believes about the instructional technologies is given in Table 1. According to the results of the study, primary school teachers have high self efficacy towards instructional technologies. As shown in Table 1, the arithmetic average of surveyed primary school teachers self efficacy towards instructional technologies $\bar{x}=4.14$.

The ingredients which have the highest arithmetic average are:

I can encourage the students' attendance at the lesson (4.46).

I can gather students' attention with tools and materials I will use (4.44).

During the course, I can consolidate to students' react which is appropriate the plan (4.44)

I can determine students' pre- competence relevant to lessons subjects (4.41).

The ingredients which have the lowest arithmetic average are:

I can do minor revision of a teaching materials (3.79).

I can determine the needs of a revision of teaching materials (3.86).

When I am determining learning objectives I can take into account the properties of the students who have special status (3.86).

I can set learning goals which can be reached by all students for my lessons (3.76)

I can determine students' learning styles (3.80).

Primary school teachers believe that they can select appropriate ones among the existing teaching materials for their lessons and they can determine the needs of a revision of teaching materials and they can do minor revision of a teaching materials. Primary school teachers have high self efficacy preparing appropriate activities to students for

their regurgitating and preparing the class for using tools and materials they chosen and the tools and materials which are used in their lesson. They know the tools and methods relevant to subject of students' lessons for determining pre- competence and they know the tools and methods for determining the students' learning styles. They believe that they can select the appropriate teaching methods for specific student characteristics and they can appropriate teaching methods for specific learning goals. They have high self efficacy determining my deficiency in terms of appropriately using instructional technologies as a teacher and determining suitability of the content of teaching material for a lesson. And they believe that they can gather students' attention with tools and materials they will use and they can use tools and materials they chosen as their plan and they can consolidate to students' react which is appropriate the plan. Adding to that they believe that they can determine deficiencies of teaching practice according to a prepared lesson plan and they can evaluate students' achievement at the end of lesson and they can encourage the students' attendance at the lesson and they can use appropriate learning activities suitable for learning goals they determined.

4. Conclusion and Suggestion

Result of this study is concluded that primary school teachers have high self efficacy believe towards instructional technologies. And teachers believe that they have an understanding of how technology can be integrated into regular classroom instructional practices. To improving teachers' attitudes, achievement, abilities and such as these properties are works of education faculties and teachers themselves. Because of teachers' adequate self efficacy believes that we can say education faculties and teachers have done their task.

Teachers who have adequate believe, attitude and skills should be encouraged to continue developing technology based skills, attitude and believe by the school principals. And then if we want to develop positive teachers' attitudes towards instructional technologies, firstly we have to pursue to develop pre service teachers' attitudes and abilities towards instructional technologies.

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